

## REMARKS/ ARGUMENTS

Claim 4 was objected to due to the use of "said" integration platform. As the examiner will note, claim 1 has been amended to include a recitation of an integration platform and with this amendment this ground for objection has been overcome.

Claims 1, 6-10, 13, 15-17 and 19-22 were rejected under 35 USC 102 as being fully anticipated by Orenstein. The independent claims, namely, claims 1, 10 and 17 have been amended to clearly differentiate them from Orenstein.

Claim 1 has been amended to include a recitation of the integration platform, somewhat along the lines of canceled claim 2, but now recites that the integration platform has a "silicon substrate" and each of the gain element and the microresonator has "a body of material different than said integration platform" and is "disposed on said integration platform." In Orenstein, the integration platform identified by the Examiner in the rejection of claim 2 is Orenstein's "processed wafer" (see page 5 of the official action). Orenstein's processed wafer is clearly InP - see Figure his cross section views of Figures 5A - 5E, and 6 where InP is clearly identified. Note that his waveguides are buried in his processed wafer. Those waveguides appear to be InP waveguides and not silica waveguides as claimed by amended claim 1 and by amended claim 10.

This issue of the material selected by Orenstein for his processed wafer comes up in another context. In the rejection of claim 5 the Examiner noted that silica fiber has a small coefficient of thermal expansion. From that observation the Examiner suggests that it would be obvious to make Orenstein's grating out of silica. How is that so?

The Examiner is requested to note that Orenstein discusses a grating embodiment with reference to Figure 3A. And when he compares his structures to the prior art, he mentions replacing either one grating or two prior art gratings with microring resonators. See the discussion at column 3, lines 43-48.

The following embodiments (which are discussed in much greater detail) no longer use a grating, but rather involve two microring resonators. So it is submitted that a person reading Orenstein would be lead in the direction of using two microrings as opposed to being lead to use a grating and one microring.

There is probably a good reason for this. InP has much more temperature sensitivity than silica. If Orenstein knew how to make the grating out of silica, which has much lower temperature sensitivity than InP, he probably would have mentioned it. Instead he suggests using a device which is **tunable**. It might be a bit messy, and apparently he does not mention it, but you can probably "tune away" the temperature problem that InP has. Anyway, he takes the reader down the microring path.

Its is submitted that it is not obvious how to make the grating in Orenstein's Figure 3A embodiment with a temperature sensitivity less than or equal to  $0.1 \text{ \AA}/^\circ\text{C}$  as claimed by claim 5. Orenstein does not teach how to do so and it is submitted that it is not obvious how to do so.

Claim 17 has been amended to recite "electrically tuning said tunable Fabry-Perot etalon or microdisk microresonator, wherein a second portion of said spectrum of light is to be transmitted by said transmitter to a sampled grating fabricated over a silica waveguide" which is not taught by Orenstein. As already mentioned, Orenstein does not teach silica waveguides and seems to suggest another alternative (a tunable microring) to a grating.

The amendments made herein are without prejudice to the Applicants' right to pursue any of the originally claimed or disclosed subject matter by means of a continuing application.

Withdrawal of the rejections and allowance of the claims are respectfully requested along with reconsideration of this application.

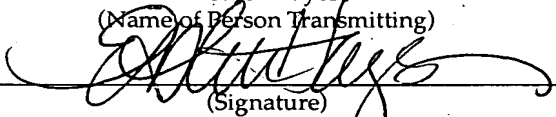
The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In

particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

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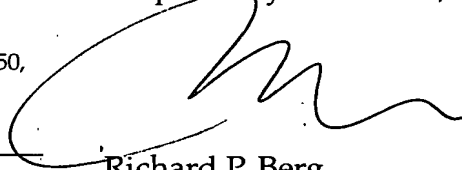
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Esther Hayes  
(Name of Person Transmitting)

  
(Signature)

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(Date)

Respectfully submitted,



Richard P. Berg  
Attorney for the Applicant  
Reg. No. 28,145  
LADAS & PARRY  
5670 Wilshire Boulevard,  
Suite 2100  
Los Angeles, California 90036  
(323) 934-2300 voice  
(323) 934-0202 facsimile